USSR UDC 77

GLAUBERMAN, A. YE.

"Quasimetallic Centers in Ionic Crystals"

V sb. Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti (International Congress on Photographic Science, Moscow, 1970, Nature of Photographic Sensitivity -- Collection of Works), no place of publication given, Vneshtorgizdat, no year given, pp 167-170 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1313)

Translation: Analysis of data on the coagulation of F-centers in alkali-halide crystals indicates the formation of three classes of centers: elementary clusters (R, M, etc.), large (colloidal) particles of metal, and intermediate quasimetallic centers. A model of the formation of quasimetallic centers proposed by the author is discussed; the model is based on heterophase fluctuation in the pretransition state of the crystal. The possibilities of using this model to describe the formation of sensitivity centers in AgHal where the initial F-centers are absent and also the formation of primary Ag-centers in photolysis are considered. A

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GLAUBERMAN, A. YE., Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti, no place of publication given, Vneshtorgizdat, no year given, pp 167-170

quantitative theory is proposed for the optical properties of small quasimetallic centers in photochemically colored AgHal crystals, considering the special quantum properties of quasimetallic centers as small Fermi systems. For a fixed size (a) of the quasimetallic centers, it is shown that for $a \sim 10$-15 Å many small maxima are formed on the bell-shaped absorption curves in the visible region, the position and number of which depend on a. For $a > 15$ Å the absorption goes into the IR-region and returns into the visible region only for $a > 40$ Å. It is thus possible to consider the particles causing the fine-line structure of AgHal absorption as monodispers quasimetallic centers with 10 Å $\leq a \leq$ 15 Å.
A. L. Kartuzhanskiy.

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1/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EXCITON ATTENUATION OF HYPERSOUND IN A STRONG MAGNETIC FIELD -U-

AUTHOR-(02)-RUVINSKIY, M.A., GLAUBERMAN, A.E.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 1, PP 95-99

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCITON, STRONG MAGNETIC FIELD, ULTRASONIC ABSORPTION, ACOUSTIC WAVE, PIEZOELECTRIC MATERIAL, SEMICONDUCTOR PROPERTY, ELECTRON PHONON INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1083 STEP NO--GE/0030/70/037/001/0095/0099

CIRC ACCESSION NO--AP0107592
UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107592

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN INVESTIGATION IS MADE OF THE ATTENUATION OF HYPERSOUND BY WANNIER-MOTT EXCITONS IN A STRONG MAGNETIC FIELD WHEN THE DISTANCE BETWEEN THE LANDAU ZONES EXCEEDS THE CHARACTERISTIC COULOMB ENERGY AND THE HYPERSONIC WAVE PROPAGATES PERPENDICULARLY TO THE MAGNETIC FIELD DIRECTION IN SEMICONDUCTORS WITH PIEZOELECTRIC AND DEFORMATIONAL ELECTRON PHONON INTERACTIONS. IT IS ALSO COMPARED WITH THE ATTENUATION OF HYPERSOUND BY THE FREE ELECTRONS AND HOLES IN THE STRONG MAGNETIC FIELD. FACILITY: PHYSICS RESEARCH INSTITUTE, ODESSA STATE UNIVERSITY.

UNCLASSIFIED

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USSR UDC 621.892.8

PANOK, K. K., TRET'YAKOV, P. P., ZUSEVA, B. S., GRIGOR'YEV, P. F., KULIKOV, I. N., GLAVATI, O. L., GORDASH, Yu. T., RABINOVICH, I. L.

"New Aviation Oils with Dipole Type Additives"

Neftepererabotka i Neftekhimiya. Resp. Mezhved. sb. [Oil Refining and Petrochemistry, Republic Interdepartmental Collection], No 5, 1971, pp 38-41, (Translated from Referativnyy Zhurnal Aviatsiyonnye i Raketnye Dvigateli, No 12, 1971, Abstract No 12.34.9, from the Resume).

Translation: The results of studies of the physical, chemical and operational properties of a new aviation oil containing a Dipole-type additive by laboratory methods, and the results of 50 hours tests of this oil in a Type IU-82T one-cylinder installation indicate that this oil is significantly superior to Type MS-20 oil without additives, presently used for piston aviation engines, and is equal to and in some respects superior to aeroshell oil W-100, a foreign type. 3 Tables; 3 Biblio. Refs.

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Acc. Nr: AP0048860 Abstracting Service: GEOPHYSICAL ABST. 5/70 Ref. Code: 4R0459

91934h Infrared spectroscopic studies of the structure of high-molecular-weight succinimides and their initial components. Pliev, T. N.; Glavati, O. L.; Popovich, T. D. (Vses. Nauch.-Issled. Inst. Neftekhim. Promt., USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 31-46 (Russ). The ir spectra of alkenylsuccinimide motor oil detergent additives (I), e.g. OLOA-1200, S-12, S-20, S-23, S-22, S-25, and 45, as well as of their starting materials, viz., polyisobutylene (II) and polypropylene (III), alkenylsuccinic anhydrides (IV), and polyethylenepolyamines were systematically studied. The data obtained afforded a means of exercising control over the production technology and the identification of I. The condensation of II and III with maleic anhydride can be controlled by a band at 1790 cm^{-1}, whereas the degree of amination can be evaluated by bands at 1670 and 1710 cm^{-1}. A correlation between the ir spectra and the structure of I, II, and III indicated a spontaneous conversion of IV into alkenylsuccinic acid (due to hydrolysis). The hydolysis rate can be studied as a function of polymer structure and other physicochem. factors by a band at 1715 cm^{-1}. CKJR

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REEL/FRAME
19800627

1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE STATE OF PROTEIN AND AMINOACID SPECTRUM OF THE BLOOD SERUM IN RELATIVES OF PATIENTS WITH LUPUS ERYTHEMATOSUS -U-

AUTHOR-(03)-GLAVINSKAYA, T.A., PAVLOVA, L.T., KOMAROVA, V.D.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 4, PP 18-22

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SKIN DISEASE, BLOOD CHEMISTRY, PROTEIN, AMINO ACID, GLOBULIN, GAMMA GLOBULIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0566 STEP NO--UR/0206/70/000/004/0018/0022

CIRC ACCESSION NO--AP0108781

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 024

CIRC ACCESSION NO--AP0108781

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIES PROTEIN AND AMINOACID SPECTRUM OF THE BLOOD SERUM, AS WELL AS LABILE GLOBULINS IN 57 RELATIVES FROM FAMILIES OF 37 PATIENTS WITH DIFFERENT FORMS OF LUPUS ERYTHEMATOSUS. CLINICALLY HEALTHY MEMBERS OF FAMILIES OF THE PATIENTS WERE FOUND TO HAVE DISPROTEINEMIAS, THE CHARACTER OF WHICH WAS SIMILAR TO THAT IN LUPUS ERYTHEMATOSUS. IN MOTHERS WHOSE CHILDREN SUFFERED FROM LUPUS ERYTHEMATOSUS THE MOST IMPORTANT FINDINGS WERE HYPOALBUMINEMIA AND HYPERGAMMAGLOBULINEMIA. IN CHILDREN WHOSE MOTHERS SUFFERED FROM LUPUS, ERYTHEMATOSUS A TENDENCY TO HYPOGAMMAGLOBULINEMIA WAS OBSERVED RELATIVELY MORE FREQUENTLY. DIRORDERS OF THE PROTEIN SPECTRUM WERE ACCOMPANIED BY DISBALANCE OF SOME FREE AMINOACIDS, MOST FREQUENTLY OF TYROSINE, LESS FREQUENTLY OF CYSTINE AND PHENYLALINE.

FACILITY: KAFEDRA KOZHNYKH I VENERICHESKIKH BOLEZNEY GOR'KOVSKOGO MEDITSINSKOGO INSTITUTA IM. S. M. KIROVA.

UNCLASSIFIED

USSR

UDC 621.382.2:621.317.799

VALOV, A.N., GLAVNOV, V.N., TRUNOV, YU.A.

"Measurement Of Temporal Parameters Of High-Speed Diodes"

Sb.nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collection Of Scientific Works On Problems Of Microelectronics. Moscow Institute Of Electronics Technology), 1971, Issue 7, pp 86-102 (from RZh:Elektronika i yeye primeneniye, No 5, May 1972, Abstract No 5B477)

No abstract.

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USSR UDC: 519.24

GLAZ, A. B., RASTRIGIN, L. A.

"Estimate of the Probability of Formation of Optimum Structure of a Perceptron in the Case Where the Probability is Optimized by Random Search Methods"

V sb. Zadachi statist. optimizatsii (Problems of Statistical Optimization --collection of works), Riga, "Zinatne", 1971, pp 131-141 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V407)

Translation: The paper considers the methods of reducing the probability of error in recognition by an elementary perceptron in the case where the classes of objects presented intersect. Minimization of the probability of error reduces to maximizing the probability of formation of an optimum structure of S—A-bonds and may be achieved both by increasing the total number of A-elements, and by optimizing the structure of the bonds between the S- and A-elements of the perceptron by random search algorithms. The relation is found between the number of steps of the search and the number of A-elements ensuring identical probability of formation of the optimum structure of S—A-bonds in the perceptron. Authors' resumé.

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USSR

UDC 51:155.001.57:681.3.06

GLAZ, A. B., RASTRIGIN, L. A.

"Use of Random Search Algorithms for Synthesis of Optimal Perceptron Structure"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No 4, Riga, Zinatne Press, 1970, pp 109-123 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V579 by the authors).

Translation: An application of the method of random search for determination of the optimal structure of S-A connections in a perceptron during its learning process is studied. It is demonstrated that during the search process, adaptation of the perceptron to a concrete task is performed, as a result of which higher quality of recognition is provided in comparison with ordinary learning algorithms.

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USSR

UDC 535.825:533.07

GLAZANOVA, I. D., ZARUBINA, I. L., KULAKOV, A. A., and SMIRNOV, V. A.

"Microspectrofluorometer"

Leningrad, Optiko-mekhanicheskaya promyshlennost' No 11, Nov 71, pp 30-34

Abstract: A microspectrofluorometer MLI-1 (Author Certificate No 1145322) intended for full microphotometric investigations and developed at the Leningrad Optico-Mechanical Department is described. It permits the observation and photography of microstructures, the evaluation of radiation intensity variation of separate selected structure elements, and the recording of their luminescence spectra, as well as their excitation and absorption spectra. A so-called "probe" lighting is used in the apparatus at which, with the aid of microobjectives, the images of diaphragm probes are projected in the plane of studied and reference specimens on the selected microstructure element. A functional diagram as well as the optical diagram of the MLI-1 apparatus are presented and described in detail. The apparatus spectral operational range with luminescence excitation is between 240-450 nm, in luminescence study 300-700 nm and in absorption measurements 250-700 nm. The introduction of a scanning microscope stage with displacement limits

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USSR

GLAZANOVA, I. D., et al., Optiko-mekhanicheskaya promyshlennost' No 11, Nov 71, pp 30-34

from 10 to 300 microns, makes it possible to register the variation of luminescence intensity or optical density of specimens along any selected direction in the object plane, in scanning with probes 1 to 20 microns in diameter.

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USSR UDC 621.375.82

GLAZER, A. A., NIKITINA, T. F., PANTELEYEV, V. I., PLOTNIKOV, A. F., POPOV, YU. M., POTAPOV, A. P., SELEZNEV, V. N., TAGIROV, R. I., and SHUR, YA. S.

"Using GaAs and Nd Lasers for Optical Writing on MnBi Film"

Kratkiye Soobshch. po fiz. (Brief Communications on Physics) No 12, 1972, pp 9-12 (from RZh-Fizika, No 7, 1973, Abstract No 7D1088)

Translation: The possibility of using a GaAs semiconductor laser for recording information on a ferromagnetic film of MnBi is experimentally investigated. MnBi film 700 Å thick, which has undergone condensation in a vacuum on glass substrates of 0.1-0.2 mm in thickness, is used. For recording information, a GaAs laser with a threshold current of 2 amp at 77° K and a p-n junction width of 400 μ is used. It is shown that the laser's minimum pumping current at which recording is possible is 80 amp, whereas the radiation power is 20 w. The energy density of the radiation on the film is then $6 \cdot 10^{-9}$ j/μ². With a monopulse neodymium laser, an evaluation of an information recording density equal to 2500 lines/cm is made. It is noted that the use of a semiconductor laser with a junction width not exceeding 20 μ permits reducing the power to a fraction of a watt. Bibliography of four.

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USSR UDC 538.221

GLAZER, A. A., POTAPOV, A. P., TAGIROV, R. I., and KONSTANTINOVA, I. YU., Institute of the Physics of Metals, Ural Scientific Center, Academy of Sciences USSR

"Temperature Dependence of Magnetic Properties and Perpendicular Anisotropy of 'Transcritical' Films"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 36, No 6, 1972, pp 1195-1198

Abstract: A detailed understanding of the physical nature of the "transcritical" state requires a knowledge of the quantitative relation between I_s and $K_\perp$, on the one hand, and the hysteresis loop parameters and rotatable anisotropy, on the other. The article attempts to establish such a relation by studying the temperature dependence of $K_\perp$, I_s, H_s, H_c, I_r/I_s; the "flaking" field; and the rotatable anisotropy constant in "transcritical" 86Ni-14Fe alloy films 2400 Å in width at temperatures from -196 to +200° C. The results are compared with theoretical results obtained from formulas based on the open strips-domain structure model.

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Thin Films

UDC 669.25:539.216.2:538.24

USSR

GLAZER, A. A., SERIKOV, V. V., and SHUR, YA. S., Institute of Physics of Metals, Academy of Sciences USSR

"Study of the Process of Remagnetization of 'Supercritical' Cobalt Films by Nuclear Magnetic Resonance"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 3, Mar 71, pp 529-537

Abstract: Hysteresis loops of cobalt films 1400 and 9000 A thick in the "supercritical" state are compared with the dependence of spin echo amplitude from the field. The gain factors, relative numbers of nuclei participating in the resonance, and NMR spectra are determined in the initial state, following annealing at 470° and after separation of the film from the substrate. It is established that during switching of these films, processes of rotation of magnetization are significant. The type of domain structure in films of various thicknesses was determined on the basis of the behavior of the NMR spectra after removal of film from substrate.

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USSR

UDC 577.391+577.15.081

POSTNOVA, T. I., GLAZER, V. M., and SHESTAKOV, S. V., Moscow State University imeni M. V. Lomonosov

"Repair of X-Ray-Induced Damage in DNA by Polynucleotideligase in Vitro"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 4, Dec 70, pp 976-978

Abstract: A study was conducted of possibilities of repairing single strand breaks in DNA induced by x-ray irradiation by the methodology based on phage transformation. The degree of damage and repair of DNA was determined by the level of biological activity. Even relatively low doses of x-rays lower considerably the transformation activity of DNA. Polynucleotideligase (PNL) has no effect on parent DNA but restores almost completely the activity of DNA deactivated by DNAase (which results in single strand breaks of the 5'P- and 3'OH-type). Incubation of irradiated DNA with PNL results in considerable increase of the transformation activity, which however does not exceed 50%. This may be due to the fact that ether breaks occur -- such as 3'P- and 5'OH- which do not respond to PNL. A higher degree of inactivation lowers the repair capacity of PNL -- probably because of polystrand-type breaks.

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USSR UDC 617.7:(630:54

GLAZKO, I. V., Doctor of Medicine, Central Hospital, Novoazovskiy Rayon, Donetskaya Oblast

"Dynamic Observations of Eye Conditions in Agricultural Workers With Chronic Pesticide Intoxication"

Odessa, Oftal'mologicheskiy Zhurnal, No 4, 1970, pp 283-287

Abstract: Ophthalmologic examinations were administered to 260 patients suffering from chronic intoxication with a variety of pesticides employed in agriculture. The subjects showed objective disturbances of ocular function and somato-neural symptoms. On the basis of studies over a period of 2 years and patient histories for 10-15 years, it was determined that all of the cases with ocular symptoms and disfunctions had been in direct contact with pesticides for a season or more. Before the development of ocular pathology with general disturbances in the fundus, the vascular system (dilatation), chromatic system, lens, cornea, and lids, there were generally prodromal symptoms of general intoxication which included weakness, fatigue, irritability, sleep disturbances, gastrointestinal disturbances, and, later, burning of the eyelids, lacrimation, impairment of vision, and pain in the ocular bulbus. Treatment requires total cessation of all contact with pesticides, together with appropriate local and

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USSR

GLAZKO, I. V., Oftal'mologicheskiy Zhurnal, No 4, 1970, pp 283-287

systemic measures. Milder cases showed some signs of improvement after contact with pesticides ceased; treatment hastened recovery in these cases. A number of subjects who worked with pesticides showed no objective symptoms and were allowed to continue their work with proper precautions and clinical supervision.

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USSR

UDC 617-001:615.9

GLAZKO, I. V., Central Hospital, Kiev Institute of Labor Hygiene and Occupational Diseases

"Incidence of Eye Diseases and Functional Disturbances in Donetsk Oblast Farm Workers Handling Toxic Chemicals"

Moscow, Gigyena Truda i Professional'nyye Zabolevaniya, No 1, 1970, pp 34-37

Abstract: Pathological shifts were detected much more frequently in the eyes of farm workers in constant contact with a variety of pesticides than in a similar group of farmers who had no direct contact with the poisons. Shifts included a decrease in tactile sensitivity of the eye corner, drop in light sensitivity and color discrimination. a reduced capacity for dark adaptation, narrowing of peripheral vision, an increase in the number of physiological scotomas, and some disturbance of intraocular pressure. These disorders were combined in almost half the cases with weakness, malaise, nausea, anorexia, bleeding from the nose and gums, neuritis and polyneuritis, and impairment of liver and gastrointestinal function. Very few in the control group found to be suffering from any somatic pathology.
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USSR

GLAZKO, I. V., et al., Moscow, Gigyena Truda i Professional'nyye Zabolevaniya, No 1, 1970, pp 34-37

Examination of persons handling pesticides in Kiev Oblast revealed that the incidence of eye disorders is much lower than in the more southerly and arid Donetsk Oblast. This is ascribed to climatic factors. Pesticides are generally used in Donetsk Oblast during the spring and summer when the air temperature is high, sunlight very intense, and rainfall meager.

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Acc. Nr.: AP0029765 Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena Truda i Professional'nyye Zabolevaniya, 1970, Nr 1, pp 34, 37

INCIDENCE OF EYE DISEASES AND OCULAR FUNCTION IN PERSONS HANDLING CHEMICAL POISONS AT FARMS OF THE DONETSK REGION

I. V. Glazko

Summary

Pesticides, widely employed in agriculture, are toxic for the human organism, their action being polytropic. The effect of chemical poisons on the optic analysor needs further study. The organ of vision was examined in 260 farm workers handling pesticides and in 70 controls not exposed directly to the effects of chemical poisons. The basic group demonstrated functional ocular disturbances, viz. reduced tactile sensitivity of the cornea in 23.8%, weaker colour perception — in 20.3%, narrowing of the field of vision boundaries — chromatic — in 58.2% and achromatic in 64.4%, blind spot enlargement in 64.4% and lessened ability for dark adaptation — in 16.6%. In controls the frequency of these deviations from the normal was 5.8, 8.7, 14.4 and 14.2% respectively. In persons dealing

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with pesticides hydrodynamic characteristics were also found to digress from the normal. Ophthalmopathology was associated with somatic manifestations of chronic pesticides poisoning, and this justified considering it as an expression of this intoxication. During prophylactic examinations of persons handling chemical poisons it is necessary that an obligatory investigation of the visual function be practised in addition to routine examination of the eyes.

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19681442

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CONTINUOUS CASTING OF 82 TIMES 82 MM TOOL STEEL BILLETS -U-

AUTHOR-(04)-LOBANOV, V.V., GLAZKOV, A.YA., RUTES, V.S., CHIGRINOV, M.G.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(3), 233-5

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CONTINUOUS CASTING, CAST STEEL, TOOL STEEL, ALLOY ADDITIVE, ALUMINUM, METAL ROLLING, METAL CRACKING, GRAIN SIZE, METAL POROSITY, SILICIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1286 STEP NO--UR/0133/70/030/003/0233/0235

CIRC ACCESSION NO--AP0136692
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 024

CIRC ACCESSION NO--AP0136692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THESE BILLETS WERE SUCESSFULLY CAST AT 2.3 M PER MIN THROUGH A 10 M NOZZLE FROM 0.7-0.8PERCENT C STEEL WHEN HOLDING TUNDISH TEMP. AT 1510-30DEGREES AND THOSE FROM 1.2-1.3PERCENT C STEEL WHEN THIS TEMP. WAS 1490-1510DEGREES. CLOGGING OF THE NOZZLE WITH NONMETALLICS WAS PREVENTED BY SUBSTITUTING AL IN THE LADLE WITH 1 KG CA SILICIDE PER TON. POROSITY AND GRAIN SIZE WERE CONTROLLED BY ADDING 0.3 KG AL WIRE PER TON TO THE MOLD, WHICH DID NOT CONTAMINATE BILLET SURFACE. EXCESSIVE PRESSURE OF 17.5 TONS PRODUCED BY THE PINCH ROLLS CAUSED CRACKING AND SEGREGATION IN BILLETS, WHICH WERE ELIMINATED BY REDUCING THIS PRESSURE TO 1.5 TONS. SURFACE FOLDS 0.5-2 MM DEEP CAUSED BY MOLD OSCILLATION WERE FULLY ELIMINATED BY SCALING IN SUBSEQUENT HEATING.

UNCLASSIFIED

USSR

UDC: 621.372.413(088.8)

BEL'SKIY, O. A., GLAZKOV, G. N., ZHMUD', A. M., ZHULKOVSKIY, A. M., LAVROV, L. N.

"A Coaxial Circuit"

USSR Author's Certificate No 259201, filed 8 Jul 68, published 28 Apr 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2B211 P)

Translation: The Author's Certificate introduces a coaxial circuit which contains a lumped capacitance in the form of a hollow diaphragm with rigid and flexible walls located on the inner conductor at the first node of the voltage standing wave. To provide continuous tuning of the circuit, the rigid wall is fastened to a section of the inner conductor which passes through the shorted wall of the circuit and is movable in the axial direction, while the flexible wall of diaphragm type faces the open-circuit end of the tank and is fastened to the stationary section of the inner conductor.

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USSR

UDC 621.397.61:531.71

GLAZKOV, L. N., TRUSHIN, I. K.

"Accuracy and Speed of Television Devices for Controlling the Dimensions of Parts"

Nekotoryye vopr. teorii i proyektir. televizionno-vychisl. sistem -- V sb. (Some Problems of Theory and Design of Television Computing Systems -- collection of works), Tula, 1970, pp 4-7 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G188)

Translation: The possibility of improving the accuracy of readings of television control devices by projecting the part not completely but partially on a photocathode is demonstrated. The speed of the TV calculating device is analyzed. The bibliography has 5 entries.

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USSR UDC: 621.383.003.3

GLAZKOV, M. M., KUZ'MICHEV, G. P., ONEGIN, Ye. Ye., VOLOS, V. F.

"A Method for Wireless Assembly of Semiconductor Devices"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 16, Jun 71, Author's Certificate No 303677, Division H, filed 1 Sep 69, published 13 May 71, p 191

Translation: This Author's Certificate introduces: 1. A method for wireless assembly of semiconductor devices. The procedure includes the operations of making contact conductor frames, connecting them to the crystals, connection to external leads, and hermetic sealing. As a distinguishing feature of the patent, the precision and reliability of assembly are improved by stamping contact leads of variable cross section on a tape with the formation of lugs on the ends of the leads, and etching the tape in an etchant solution until the tapered sections between the contact leads are eaten away. 2. A modification of this method distinguished by the fact that a reinforcement ring is fastened to the contact leads after they have been stamped on the tape.

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USSR

UDC 621.382.2:(546.181):546.681

GLAZKOV, O., SLOBODCHIKOV, S., AGAYEV, Ya., Physicotechnical Institute, Academy of Sciences of the Turkmen SSR

"Electrical Properties of PN Junctions in n-Gallium Phosphide"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No 6, 1971, pp 3-8

Abstract: The paper presents some results of an investigation of the electrical properties of pn junctions based on gallium phosphide grown by the gas-transport reaction method. n-Type GaP was used with carrier concentrations of ~10^{15} and 10^{17}/cc at T = 296°K. The acceptor dopant was zinc and ohmic contacts were made by using indium on the n-side and In + (1-4)% Zn on the p-side. The current-voltage characteristics of these diodes were studied at 78-300°K. Mechanisms of current transmission are analyzed, and it is shown that a complete description of the forsard branch necessitates accounting for the diffusion and generation-recombination currents. The coefficient β increases at low temperatures due to the tunnel effect. Excellent agreement is observed between the calculated and experimentally determined contact potential difference.
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USSR

UDC 632.954:633.16

GLAZKOV, P. N., Ural Scientific Research In titute for Agriculture

"The Effectiveness of 2M-4C Against Weeds in Barley Plantings in the Conditions of the Central Urals"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 5, 1972, pp 48-49

Abstract: The experiment was done under field conditions in dark grey, poorly podzolized heavy clay soil, pH 5.12, 7.42% humus content (according to Tyurin), P_2O_5 and K_2O equivalent to 12.4 and 7.8 mg per 100 gm of soil, respectively. A dosage of 1.2 kg/ha. of 2M-4C was applied to the barley in its 4-7 leaf phase. Weed content was calculated before spraying and 30 days later. The 2M-4C killed 84.9% of the perennial shoot-reproducing weeds and 75.1% of the dicotyledonous young weeds. The herbicide had no practical effect on the grain's starch content, nitrogen substances or phosphoros, but slightly lowered the fat, cellulose, calcium, potassium and ash content.

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USSR UDC: 621.373.531.3(088.8)

GLAZKOV, R. I.

"A Sawtooth Voltage Generator"

USSR Author's Certificate No 266821, filed 5 May 68, published 2 Jul 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G279 P)

Translation: This Author's Certificate introduces a sawtooth voltage generator which contains a switching transistor connected in series with a current-discharge transistor whose output is connected to an integrating capacitor while its input is connected to the output of a correcting amplifier based on a transistor. To increase the coefficient of utilization of the supply voltage and reduce the duration of return travel, the correcting amplifier contains an additional transistor connected in a common collector circuit with its emitter connected to the base of the main transistor and its base connected to the collector of the current-discharge transistor.

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AA0043559 G UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

240835 MEASURING EQUIPMENT FOR ELECTROCHEMICAL CHARACTERISTIC OF MATERIALS in which reference electrode (2), test sample (1) and polarising electrode (3) are contained in an electrolyte. By repeated change over of contacts from battery (5) to the measuring circuit containing a capacitor and a diode, the capacitor is charged to a polarisation potential measured by instrument (7)

18.8.67 as 1179781/26-25. V.I. GLAZKOV & N.A. PETROV. (26.8.69.) Bul 13/1.4.69. Class 21e. Int.Cl.G 01r.

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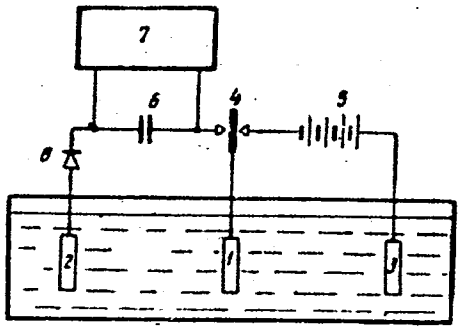
7

19762011

AA0043559



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USSR

UDC 532.526+536.24.01

GLAZKOV, V. V., GUSEVA, M. D., and ZHESTKOV, B. A. (Moscow)

"Heat and Mass Transfer in the Turbulent Layer Above Permeable Plates"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 4, 1973, pp 22-31

Abstract: The temperature and concentration fields in the boundary layer above perforated plates are presented, and their relationship is established with the velocity fields given in an article by the authors, published in this journal in 1972. Results are presented of measurements of the thermal properties of the plates and with blowing-in of various coolants; also presented are empirical formulas which determine the values of the heat flux and the temperature of the permeable walls. 5 figures. 1 table.

1/1

USSR

UDC: 532.525.4

GLAZKOV, V. V., GUSEVA, M. D., ZHESTKOV, B. A., Moscow

"Concerning Turbulent Flow Over Permeable Plates"

Moscow, Izv. AN SSSR: Mekhanika Zhidkosti i Gaza, No 4, Jul/Aug 72, pp 38-46

Abstract: The paper presents the results of a study of the velocity fields over perforated plates in a turbulent airflow when various gases are blown in. Empirical formulas are given for constructing the velocity fields in the boundary layer over permeable walls, and the problem of generality of the results is considered. The experiments were done with interchangeable perforated plates forming the upper wall of a model which was placed in a uniform airflow issuing from a rectangular nozzle. The lengthwise distribution of permeability of the plate was selected to give a constant wall temperature. The authors thank V. I. Voroshilov, O. I. Voroshilova, V. G. Kalmykov and V. P. Lukash for taking part in the work.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--RED PENETRANT FLUIDS FOR COLOR DEFECTOSCOPY BY THE VISIBILITY FACTOR -U-

AUTHOR--GLAZKOV, YU.A.

COUNTRY OF INFO--USSR

SOURCE--SVERDLOVSK, DEFEKTOSKOPIYA, NO. 1, 1970, PP 114-120

DATE PUBLISHED-------70

SUBJECT AREAS--METHODS AND EQUIPMENT

TOPIC TAGS--NONDESTRUCTIVE TEST, LUMINESCENT, QUALITY CONTROL, SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0122 STEP NO--UR/0381/70/000/001/0114/0120

CIRC ACCESSION NO--AP0100659

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100659

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS IS THE LEADING ARTICLE IN A SECTION OF THE JOURNAL ENTITLED "LUMINESCENT METHODS" AND DEVOTED TO DEFECT CONTROL USING THE COLOR METHOD, WHICH INVOLVES APPLYING A RED PENETRATING FLUID TO THE SURFACE OF THE PRODUCT. AFTER SOME TIME, THE FLUID IS REMOVED. THE FLUID REMAINING IN THE HOLLOWS OF THE SURFACE DEFECTS IS THEN DETECTED BY THE APPLICATION OF A WHITE COATING ON WHICH THE FLUID FORMS A PICTURE OF THE POSITION, SHAPE, AND EXTENT OF THE SURFACE DEFECT. THE AUTHOR GIVES A DETAILED DESCRIPTION OF THE METHOD AND OFFERS A METHOD FOR ESTIMATING POSSIBLE PENETRANT FLUIDS AND CHOOSING THE COLOR. HE ALSO DEVELOPS A FORMULA FOR COMPUTING THE COLOR BRIGHT VISIBILITY FACTOR W. FROM THIS FORMULA, A NOMOGRAM IS DEVELOPED FOR RAPID COMPUTATION OF THE FACTOR. TABLES ARE GIVEN OF THE MAGNITUDE OF W FOR A NUMBER OF FLUIDS, BOTH DOMESTIC AND FOREIGN. AMONG THE FORMER ARE THOSE DEVELOPED BY TSNIITMASH, ONE OF THEM MADE UP OF KEROSENE, OIL, AND DARK RED COLORING MATTER; AMONG THE LATTER ARE SUCH PREPARATIONS AS "SPOTCHEK" AND "ARDROX." THE COMPOSITION OF SOME OF THE OTHER DOMESTIC PRODUCTS ARE ALSO GIVEN. IN ADDITION TO THE NOMOGRAM FOR COMPUTING W, ANOTHER DRAWING GIVING THE CURVES FOR THE REFLECTION FACTORS OF "SPOTCHEK" AND "ARDROX" AS FUNCTIONS OF THE VISIBLE LIGHT WAVELENGTH IS SHOWN. THESE CURVES INDICATE A RISE IN THE RED END OF THE SPECTRUM.

UNCLASSIFIED

USSR UDC 621.396.6-181.5

BYLOV, K. V., GLAZKOV, YU. B., OGANEZOV, R. KH., STOVBA, V. I., SOKOLOV, V. P., STRAKHOV, V. S.

"Utilization of 2T603 Crystals to Create Medium Power Film Hybrid Circuits"

Elektron. tekhnika. Nauch.-tekhn. sb. Poluprovodn. pribory (Electronic Engineering. Scientific and Technical Collection. Semiconductor Devices), 1970, vyp. 6 (56), pp 118-120 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10V189)

Translation: The structural design of a caseless version of a medium power semiconductor triode based on the series semiconductor triode type 2T603 of npn structure is described. Results are presented from measuring the thermal resistance when mounting the semiconductor triode on the backing of the microcircuit by two methods -- soldering (with indirect pulse heating) and microwelding. It is demonstrated that the most effective means of mounting the semiconductor triode on the backing is solder. The magnitude of the thermal resistance drops significantly on increasing the thermal conductivity of the backing material. There are 2 illustrations and 1 table.

1/1

USSR

UDC 622.235:662.242.001.5

GLAZKOVA, A. P., and BOBOLEV, V. K., Institute of Chemical Physics, USSR Academy of Sciences

"Effect of Organophosphorus Salts on the Combustion of Ammonium Perchlorate"

Moscow, Doklady Akademy Nauk SSSR, 1971, Vol 197, No 4, pp 883-887

Abstract: The most effective inorganic catalyst for the combustion of ammonium chlorate had appeated to be the dihydrate of copper bichromate, from which it was concluded that the addition of organometallic salts to the perchlorate would strongly affect the combustion, the metal ion beformed during combustion of the salt or its acid being present in finely dispersed form. Meanwhile, the great effectiveness of organic iron-containing salts in the combustion of mixed fuels based on ammonium chlorates was already known.

In the present study, attention was directed to organometallic salts of benzoic, salicylic and other acids as catalysts of the combustion in question. It was found that only the benzoates of sodium and lithium would intensify combustion at 50 atm. As distinct from these sodium salts, fuchsin was found to intensify combustion by a factor of 1.4 with application of 300 atm pressure (at other pressure levels, there was marked retardation). A number of copper compounds were also studied.

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USSR

GLAZKOVA, A. P., and BOBOLEV, V. K., Doklady Akademy Nauk SSSR, 1971, Vol 197, No 4, pp 883-887

Tabular data on pressures and several different combustion factors accompany the paper.

2/2

Thin Films

UDC 669.25:539.216.2:538.24

USSR

GLAZER, A. A., SERIKOV, V. V., and SHUR, YA. S., Institute of Physics of Metals, Academy of Sciences USSR

"Study of the Process of Remagnetization of 'Supercritical' Cobalt Films by Nuclear Magnetic Resonance"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 3, Mar 71, pp 529-537

Abstract: Hysteresis loops of cobalt films 1400 and 9000 A thick in the "supercritical" state are compared with the dependence of spin echo amplitude from the field. The gain factors, relative numbers of nuclei participating in the resonance, and NMR spectra are determined in the initial state, following annealing at 470° and after separation of the film from the substrate. It is established that during switching of these films, processes of rotation of magnetization are significant. The type of domain structure in films of various thicknesses was determined on the basis of the behavior of the NMR spectra after removal of film from substrate.

1/1

USSR UDC 547.785.5'791.8.07

SKVORTSOVA, G. G., DOMNINA, Ye. S., GLAZKOVA, N. P., and MAKHNO, L. P., Irkutsk Institute of Organic Chemistry, Siberian Branch Academy of Sciences USSR

"The Interaction of N-Vinylazoles and N-Vinylindole With Halohydrins"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 73, pp 777-780

Abstract: The characteristics of the reaction of halohydrins (ethylene chlorohydrin, tetramethylene-1,4 chlorohydrin, 1-chloropropylene-2,3 -chlorohydrin, trimethylene-1,3 bromohydrin, ethylene fluorohydrin) with N-vinyl-imidazole (I), -benzimidazole (II), -benzotriazole (III), and -indole (IV) were studied. I and II reacted at the 3-position (at the N not bound to the vinyl group) with the formation of inner quaternary salts the halogen anion of which could be readily substituted with NO_3 and CNS in reactions with $AgNO_3$ and KCNS and the hydroxyl group with I in a reaction with HI. The vinyl group of I and II in the 1-N-position remained unchanged after the reaction with halohydrins. III reacted with the latter mainly over the vinyl group. The reaction of IV proceeded with vinyl polymerization and simultaneous formation of a quaternary salt. Brightly colored polymers of varying composition formed in this reaction.
1/1

USSR UDC 547.785.5:541.67:543.422

SHOSTAKOVSKIY, M. F., GLAZKOVA, N. P., DOMNINA, YE. S., BELOUSOVA, L. V., and SKVORTSOVA, G. G., Irkutsk Institute of Organic Chemistry, Siberian Branch of the Acad. Sc., USSR

"Reaction of N-Vinylimidazoles with Alkyl Halides"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 7, Jul 71, pp 958-960

Abstract: Conditions were studied for the reaction of N-vinylimidazole and N-vinylbenzimidazole with methyl iodide, ethyl, isopropyl, and butyl iodide and bromide, and with methylene chloride. The reaction occurs without a solvent, with a 2-3 fold excess of alkyl halide at reflux temperature, leading to the formation of quaternary salts. It was established that N-vinylimidazole is more reactive toward alkyl halides than N-vinylbenzimidazole, probably because of its higher basicity. Alkyl iodides react faster than alkyl bromides; alkyl chlorides are completely unreactive. Using quantum mechanical calculations it was shown that most of the π-electron charge was localized at the "pyridine" nitrogen atom.

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1/2 009 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--ADDITION OF MERCAPTANS TO N VINYL DERIVATIVES OF INDOLE AND IMIDAZOLES -U-

AUTHOR-(04)-SKVORTSOVA, G.G., GLAZKOVA, N.P., DOMNINA, YE.S., VORONOV, V.K.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 167-72

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MERCAPTAN, IMIDAZOLE, INDOLE, BENZIMIDAZOLE, MOLECULAR STRUCTURE, NMR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1112 STEP NO--UR/0409/70/000/002/0167/0172

CIRC ACCESSION NO--AP0104510

UNCLASSIFIED

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920009-7"

2/2 009 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0104510
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ETSH (1 G) AND 0.015 G AZOBISISOBUTYRONITRILE WAS ADDED TO 2.2 G N-VINYLINDOLE (I) WITH COOLING, AND THE MIXT. HEATED IN A SEALED TUBE UNDER N 18 HR AT 70DEGREES TO GIVE 72PERCENT N-BETA-ETHYLTHIO)ETHYLINDOLE, B SUB7 170-2DEGREES, D PRIME20 1.0897, N PRIME20 SUBD 1.6020). SIMILARLY, THE FOLLOWING COMPDS. WERE PREPD. (COMPD., PERCENT YIELD, B.P.-MM., N PRIME20 SUBD, AND D PRIME20 GIVEN): N-(BETA-ISOPROPYLTHIO)ETHYLINDOLE, 77, 161DEGREES-2, 1.5870, 1.0605; N-(BETA-TERT-BUTYLTHIO)ETHYLINDOLE, 65, 141-2DEGREES-1, 1.5770, 1.0325; N-(BETA-ETHYLTHIO)ETHYLIMIDIAZOLE, 74, 129DEGREES-1, 1.5350, 1.0863; N-(BETA-PROPYLTHIO)ETHYLIMIDAZOLE, 72, 145DEGREES-2, 1.5272, 1.0586; N-(BETA-BUTYLTHIO)ETHYLIMIDAZOLE, 94, 159DEGREES-2, 1.5218, 1.0377; N-(BETA-ETHYLTHIO)ETHYLBENZIMIDAZOLE, 38, 190-2DEGREES-2, 1.6010, 1.1409; AND N-(BETA-PROPYLTHIO)ETHYLBENZIMIDAZOLE, 42, 190-1DEGREES-1, 1.5885, 1.1162. SO SUB2 WAS PASSED INTO 2.37 G. N-VINYLIMIDAZOLE AND 1.5 G ETSH WITH COOLING AND THE MIXT. HEATED 18 HR AT 80DEGREES TO GIVE 61PERCENT N-(ALPHA-ETHYLTHIO)ETHYLIMIDAZOLE, B SUB4 113-14DEGREES, D PRIME20 1.0766, N PRIME20 SUBD 1.5270. I AND N-VINYLBENZIMIDAZOLE DID NOT REACT WITH ETSH IN THE PRESENCE OF SO SUB2 OR P-MEC SUB6 H SUB4 SO SUB3 H AT 0-70DEGREES. THE STRUCTURES WERE PROVED BY NMR SPECTROSCOPY. R SUBF VALUES WERE GIVEN.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ON THE NATURE OF AGGREGATIVE STABILITY OF COLLOIDAL SOLUTIONS. THE CONDITIONS OF THE EXISTENCE OF TWO PHASE DISPERSED SYSTEMS IN

AUTHOR-(03)-BARBOY, V.M., GLAZMAN, YU.M., FUKS, G.I.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 321-326

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COLLOID, CHEMICAL STABILITY, THERMODYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0189 STEP NO--UR/0069/70/032/003/0321/0326

CIRC ACCESSION NO--AP0120887

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0120887
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS DEMONSTRATED THAT TWO PHASE DISPERSED SYSTEMS CAN EXIST IN THERMODYNAMIC EQUILIBRIUM IF THE SPECIFIC SURFACE ENERGY IS SMALL AND INCREASES FAST ENOUGH WITH DECREASING PARTICLE RADIUS. FACILITY: KIEV. TEKHNOLOGICHESKIY INSTITUT LEGKOY PROMYSHLENNOSTI, NIICHASPROM, LABORATORIYA FIZIKO KHIMII POVERKHNOSTI, MOSCOW.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ON THE CHARGE DENSITY ON THE SURFACE OF DISPERSED PHASE OF GOLD HYDROSOL AT FAST COAGULATION THRESHOLDS -U-

AUTHOR-(05)-BARAN, A.A., GLAZMAN, YU.M., DERYAGIN, B.V., KUDRYAVTSEVA, N.M., STRAZHESKO, D.N.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 167-170

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GOLD COMPOUND, COAGULATION, MICROSCOPY, CALCIUM COMPOUND, YITRIUM COMPOUND, RUBIDIUM COMPOUND, HYDROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0767 STEP NO--UR/0069/70/032/002/0167/0170

CIRC ACCESSION NO--AP0108968

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108968

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AMOUNTS OF SORBED RB POSITIVE, CA PRIME2 POSITIVE AND Y PRIME3 POSITIVE COUNTERIONS AT THE FAST COAGULATION THRESHOLDS OF RED GOLD HYDROSOL HAVE BEEN MEASURED BY A RADIOMETRIC METHOD. THE COAGULATION THRESHOLDS HAVE BEEN DETERMINED FROM KINETIC CURVES OBTAINED BY FLOW ULTRAMICROSCOPY. ON THE BASIS OF THE DATA ON THE COUNTERIONS SORPTION IT HAS BEEN POSSIBLE TO ESTIMATE THE CHARGE DENSITY ON DISPERSED GOLD FROM THE SURFACE AREA VALUE. IT IS SUGGESTED THAT IN GOLD HYDROSOL THE OH NEGATIVE IONS ARE POTENTIAL DETERMINING.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--RADIOMETRIC STUDY OF ION SORPTION BY MNO SUB2 AND FE(OH) SUB3 PRECIPITATES FROM AQUEOUS ORGANIC MEDIA -U-

AUTHOR-(04)-VDOVENKO, L.I., BARAN, A.A., GLAZMAN, YU.M., STRAZHESKO, D.N.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 350-353

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, CHEMISTRY

TOPIC TAGS--RADIOACTIVE TRACER, ION, MANGANESE OXIDE, IRON OXIDE, SORPTION, ORGANIC SOLVENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1599 STEP NO--UR/0069/70/032/003/0350/0353

CIRC ACCESSION NO--AP0125221

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920009-7"

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125221
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT HAS BEEN ESTABLISHED BY A DIRECT RADIOACTIVE TRACER METHOD THAT THE COUNTERIONS SORPTION BY MNO SUB2 AND FE(OH) SUB3 PRECIPITATES FROM WATER MIXTURES WITH ETHYL ALCOHOL, ACETONE AND DIOXANE IS PRACTICALLY INDEPENDENT OF THE ORGANIC COMPONENT CONTENT IN THE MIXTURE. TO ACCOUNT FOR THIS FACT IT IS SUGGESTED THAT ON THE SURFACE OF SUFFICIENTLY HYDROPHILIC PRECIPITATES STUDIED A STRONG ADSORPTION FILM IS FORMED FROM WATER MOLECULES, WHICH DOES NOT DISINTEGRATE EVEN AT HIGH CONCENTRATIONS OF ORGANIC SOLVENTS IN THE BULK OF THE LIQUID PHASE. FACILITY: INSTITUT FIZICHESKOY KHIMII AN USSR, KIEV. FACILITY: TEKHNOLOGICHESKIY INST. LEGKOY PROMYSHLENNOSTI, KIEV.

UNCLASSIFIED

Acc. Nr: AP0036522 Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1, pp 10-16

EFFECT OF THE DISPERSE PHASE CONCENTRATION OF LYOPHOBIC SOLSON THE DEPENDENCE OF THE COAGULATION VALUES UPON THE VALENCE TYPE OF ELECTROLYTE, THE POTENTIAL AND THE SIZE OF COLLOIDAL PARTICLES

B. V. Barboy, Yu. M. Glazman

Summary

The effect of the dispersed phase concentration of lyophobic sols on their coagulation by electrolytes of any valence type has been considered. The regularities found for symmetrical electrolytes are valid in all the cases studied. The stability of colloidal solutions depends on the particle size. With decreasing dispersity of the system, the coagulation values passes through a maximum if the sol volume concentration is constant. If, however, the number of disperse phase particles per unit volume remains constant, the stability of the colloidal solution diminishes monotonically. At all disperse phase concentrations the stability of lyophobic sols increases with rising potential of colloidal particles.

USSR

UDC 532.592

GLAZNEV, V. N.

"Some Laws of the Propagation of Disturbances of a Discrete Tone in a Free Supersonic Jet"

Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1972, pp 37-40

Abstract: A study was made of the laws of propagation of disturbances of a discrete tone in a free supersonic jet. An experiment was performed with a jet of cold air ($T_0 \approx 290°$ K). A shaped nozzle was used with M = 1.5, a divergence halfangle of the edges of $\beta = 8°$, and an exit cross section diameter of d_a = 40 mm. The frequency of the discrete tone was f_d = 2,650 hertz. The propagation of the disturbances in the jet was studied by measuring the pulsations of the mass velocity $\delta(\rho v)$ using the DISA-55D01 cooling-power anemometer with L-type film sensors. The possible disturbances of the autooscillatory mode caused by introduction of the anemometer sensors into the jet were controlled by a microphone installed at a point in the near sound field. These disturbances were negligibly small. Graphs are presented showing the correlations of the anemometer sensors, the interrelations of the flow velocity and the sonic velocity in the jet, the distribution of the relative amplitude ε of the mass velocity disturbances and the function $\varepsilon(x)$ (the distribution of

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USSR

GLAZNEV, V. N., Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1972, pp 37-40

ε with respect to the correlation measurement line).

The discrete tone disturbances in the jet were three dimensional. The amplitude of the disturbances varies in a complex manner in the plane passing through the axis of the jet. At the cell boundaries it varies discontinuously. Some of the discrete tone constants were defined for the selected experimental conditions as follows: the correlation wavelength $\lambda_x \approx 0.12$ m ≈ 0.12 m $\approx 2L$; the disturbance propagation velocity $\tilde{v}_x \approx 320$ m/sec along the x-axis.

2/2

UDC: 534.63+534.211

USSR

GLAZNEV, V. N., ZHELTUKHIN, N. A.

"Determination of Frequency Characteristic of Thermoanemometer Using Planar Sound Wave"

Novosibirsk, Izv. SO AN SSSR, Ser. Tekhn. Nauk, No. 8, 1970, pp 20-25.

Abstract: It is suggested that the frequency characteristic of a thermoanemometer be determined using acoustical oscillations which have an identical influence on the sensor to that of turbulent oscillations. Experiments were performed to illustrate the method, using a cylindrical tube 37 mm in diameter exposed to oscillations at 2590 Hz. The amplitude-frequency characteristic of a DISA-55 D01 thermoanemometer was determined. The method suggested is a new method for determination of the frequency characteristic of thermoanemometers over a broad frequency range. The accuracy and frequency range of the method are primarily determined by the metrological characteristics of the microphone used. The method is simple and easily performed.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SYNTHESIS OF ACRYLONITRILE COPOLYMERS CONTAINING REACTIVE METHYLOLAMIDE GROUPS -U-

AUTHOR-(05)-POPOVA, G.P., KIRPICHENKO, T.R., GLAZOMITSKIY, K.L., GOLTSIN, B.E., ROSKIN, YE.S.

CCUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 259-62

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, ACRYLONITRILE, COPOLYMER, AMIDE, CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0966 STEP NO--UR/0153/70/013/002/0259/0262

CIRC ACCESSION NO--AP0124625

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124625

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCES OF (CH SUB2 CHCNCH SUB2 CME(CONHCH SUB2 OH) SUBN (I) COMPN., YIELD, AND REACTION RATE ON THE COMPN. OF THE MIXT. OF MONOMERS, ACRYLONITRILE (II) AND N-METHYLCLACRYLAMIDE (III), AND ON REACTION TIME WERE DETD. MONOMER REACTIVITY RATIOS OF II AND III WERE 0.98 PLUS OR MINUS 0.05 AND 2.33 PLUS OR MINUS 0.1, RESP. I WAS ENRICHED IN III COMPARED WITH THE ORIGINAL MONOMER MIXT. COMPN. BUT III WAS SPENT SIGNIFICANTLY FASTER AS COPOLYMN. PROCEEDED. COPOLYMN. RATES WERE HIGH (E.G. CONVERSION AFTER 60 MIN FOR A 95:5 II-III MIXT. WAS 75-80PERCENT) BUT THE RATE DECREASED WITH TIME AND WITH INCREASING III CONCN. IN THE ORIGINAL MONOMER MIXT.

FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--IMPARTING COLOR TO COPOLYMER AND FIBERS BASED ON POLYACRYLONITRILE
-U-
AUTHOR-(05)-KOVZHIN, L.A., KIRPICHENKO, T.R., GLAZOMITSKIY, K.L., ROSKIN, YE.S., KHARKHAROV, A.A.
COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 109-12
DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--DYE, COPOLYMER, POLYACRYLONITRILE FIBER, ACRYLATE, AMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0975 STEP NO--UR/0153/70/013/001/0109/0112

CIRC ACCESSION NO--AP0124634
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACRYLONITRILE METHYLOLMETHACRYLAMIDE COPOLYMER (I) WAS DYED WITH H SUB2 O SOL. DYES DURING THE COPOLYMN. OF THE RESP. MONOMERS IN AQ. NASCN SOLN. DYED I EXHIBITED EXCELLENT LIGHT FASTNESS (COMPARABLE TO THAT OBTAINED BY DYEING POLYMER FIBERS WITH FIBER REACTIVE DYES). THE PHYSICOMECH. PROPERTIES OF DYED I FIBER WERE ESSENTIALLY UNCHANGED. AN EFFECTIVE TECHNIQUE WAS DEVELOPED FOR THE RECOVERY OF DYES FROM THE SETTING BATH.

FACILITY: LENINGRAD. INST. TEKST. LEGK. PROM. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 C19 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--BULKY YARN -U-

AUTHOR-(04)-KHARKHAROV, A.A., ROSKIN, YE.S., MAKAROVSKAYA, N.I., GLAZOMITSKIY, K.L.

COUNTRY OF INFO--USSR

SOURCE--USSR 265,365

REFERENCE--OTKRYTIYA, IZOBRET., PROM OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--09MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SYNTHETIC FIBER, ACRYLONITRILE, ACRYLAMIDE, POLYMER CROSSLINKING, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1421 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128820

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0128820

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BULKY YARN IS PREPD. FROM A MIXT. OF FIBERS WITH DIFFERENT DEGREES OF SHRINKAGE. ONE OF THE COMPONENT MIXTS. IS FIBER FROM ACRYLONITRILE AND METHYLOLMETHACRYLAMIDE. THE FIBERS ARE CROSSLINKED BY HEATING AT 140DEGREES OR BY TREATING WITH HCL AT 80-90DEGREES. FACILITY: KIROV, S. M. INSTITUTE OF TEXTILE AND LIGHT INDUSTRY, LENINGRAD.

UNCLASSIFIED

USSR UDC: 669.187.2

KRASNORYADTSEV, N. N., LEVIN, A. M., GLAZOV, A. N., PASHCHENKO, V. Ye., KONOVALOV, K. N., VERSHININ, V. I.

"Decreasing the Loss of Titanium During Production of Stainless Steel"

Moscow, Metallurg, No 10, Oct 73, pp 18-19.

Abstract: Balance melts performed in a 40 ton arc furnace at the Kuznetsk Metallurgical Combine have shown that when type Kh18N10T stainless steel is produced by the ordinary technology (using up to 70% of waste of this type of steel in the charge, blowing of oxygen through the bath, running off of slag at the end of the melt and introduction of new lime and spar, alloying with 30% ferrotitanium in the furnace), the titanium losses are approximately as follows: 56% by interaction with oxides, 13% with oxygen and nitrogen in the metal, 27% with oxygen in the air, other losses 4.0%. Replacement of 30% ferrotitanium with 65% and alloying the metal in the ladle rather than in the furnace reduced the mean titanium loss from 57.0 to 52.0%. Several series of experimental melts were performed to find additional means of reducing and stabilizing titanium loss, without success. Success was finally achieved by modifying the technology quite basically. The primary features of the new technology are that the slag is not run

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Krasnoryadtsev, N. N., Levin, A. M., Glazov, A. N., Pashchenko, V. Ye., Konovalov, K. N., Vershinin, V. I., Moscow, Metallurgy, No 10, Oct 73, pp 18-19.

off from the furnace after melting of the ferrochromium, but rather poured into the ladle with the metal at a high temperature (averaging about 1640° C), reducing the length of the reduction period and increasing the degree of reduction of chromium from the slag. The metal is poured from the first ladle into a second ladle through a tap hole 100-110 mm in diameter, and alloyed with 65% ferrotitanium in the second ladle, preventing contact between titanium and slag. Titanium loss was further reduced from 52 to 40.9% by the new technology, and the stability of the titanium content was increased.

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USSR UDC 669.187.2

VERSHININ, V. I., LEVIN, A. M., GLAZOV, A. N., KRASNORYADTSEV, N. N., and PASHCHENKO, V. Ye., Kuznetsk Metallurgical Combine and Siberian Metallurgical Institute

"Alloying Steel With Aluminum in Pouring From Ladle Into Ladle"

Moscow, Stal', No 6, Jun 73, pp 517-518

Abstract: Three smelting variants of manganese-aluminum steel were investigated in order to determine the most optimum variant. The investigation results are discussed by reference to curves of the magnesium content (in %) dependence on periods of smelting and pouring. Smelting manganese-aluminum steel without drawing off the slag, with double pouring over and alloying with aluminum in the second ladle, makes it possible to get in the ready-made metal in the average 0.0024% Mg; this decreases the melting duration by 15-20 min and reduces the waste due to stratification. By the standard technology with aluminum alloying in the ladle,

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USSR

VERSHININ, V. I., et al., Stal', No 6, Jun 73, pp 517-518

the steel contains 0.0076% Mg, by introducing aluminum into the furnace it contains 0.011% Mg. Other quality characteristics, as mechanical properties, purity of the surface, homogeneity of the metal relative to aluminum and other elements, are practically identical in smelting by all variants and satisfying the technological requirements. Two figures, seven bibliographic references.

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USSR

UDC: 621.396.699

GLAZOV, B. I.

"A Search Device for Noise-Like Signals"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331490, Division H, filed 12 Feb 70, published 7 Feb 72, pp 181-182

Translation: This Author's Certificate introduces a search device for noise-like signals which contains an AFC circuit made up of a mixer, wide-band amplifier, demodulator, narrow-band amplifier, detector with low-frequency filter, and a controlled heterodyne all connected in series. The device also contains a delay tracking circuit with series-connected discriminator and correcting amplifier. The signal input of the discriminator is connected to the output of the wide-band amplifier. The correcting amplifier is controlled by a cadence oscillator. The controlling signal from the output of the cadence oscillator is sent through a diode and the first input of an OR circuit, and through a delay line, a diode and the second input of the OR circuit to a shift register with feedback. The search device also contains a scanning unit with its output connected to the input of the con-

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GLAZOV, B. I., USSR Author's Certificate No 331490

trolled heterodyne, while the input of the scanning unit is connected to the output of the cadence oscillator. The counting outputs of the scanning unit are connected to the controlling inputs of the diodes. As a distinguishing feature of the patent, signal search time is reduced without impairing the probability of signal detection by connecting the output of the wide-band amplifier through m parallel-connected correlators to the controlling inputs of a threshold diode and a commutator diode. The threshold diodes are connected in series, while the commutator diodes are connected in parallel and through an additional OR circuit to the heterodyne inputs of the discriminator and demodulator. The output of the last threshold diode is connected to the reset inputs of the correlators and to the controlling input of the scanning unit.

UDC 621.391.177

USSR

GLAZOV, B.I. (Member, Scientific-Technical Society Of Radio Engineering, Electronics, And Communication imeni A.S. Popov)

"Numerical Periodic Sequence For Shaping Noise-Like Signals With Frequency Modulation"

Radiotekhnika, Vol 27, No 3, Mar 1972, pp 91-93

Abstract: The necessary and sufficient conditions are found which assure independence of estimates of the frequency and lag of FM signals formed by periodic numerical sequences determined in the sets $<0, 1, 2, 3...L>$ called pseudo-even. 1 fig. 2 tab. 2 ref. Received 27 Nov 69; after revision into short communication, 22 Oct 71.

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USSR UDC: 621.394.64

REZNIK, L. Ye., GLAZOV, B. I.

"A Device for Cyclic Search of Noise-Like Wide-Band Signals With Respect to Delay"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311415, Division H, filed 20 Oct 69, published 9 Aug 71, p 218

Translation: This Author's Certificate introduces a device for cyclic search of wide-band noise-like signals with respect to delay using target designation data. The device contains a target designation input circuit, receiving and transmitting generators of pseudorandom sequences with decoders, a trigger flip-flop, a control flip-flop, an operating mode flip-flop with AND circuit, a divider flip-flop, a cadence frequency oscillator for the receiving pseudorandom sequence generator, and a delay counter. As a distinguishing feature of the patent, search time is shortened by connecting the outputs of the above-mentioned cadence frequency oscillator for the receiving pseudorandom sequence generator to the first and second cadence inputs respectively of a commutation

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REZNIK, L. Ye., GLAZOV, B. I., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311415, Division H, filed 20 Oct 69, published 9 Aug 71, p 218

module whose commutating inputs are connected to the commutating outputs of a program module. The controlling input of the commutation module is connected to the output of the operating mode flip-flop mentioned above, and the signal input is connected to the output of a divider module. The inputs of the divider are connected to the outputs of the decoder for the receiving pseudorancom sequence generator, and at the same time the counting output of the commutation module is connected to the input of the program module, and the cadence output of the commutation module is connected to the input of the receiving pseudorandom sequence generator.

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USSR UDC: 621.394.142(088.8)

GLAZOV, B. I.

"A Device for Ensuring Random Search of Pseudonoise Signals With Respect to Delay"

USSR Author's Certificate No 264489, filed 7 Oct 67, published 19 Jun 70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12D63 P)

Translation: The Author's Certificate introduces a device for ensuring random search of pseudonoise signals with respect to delay with input of initial data into a generator of reference pseudonoise of M-sequence *M* with correlation indicator for detection and scanning of the search interval with respect to delay. To reduce average search time without increasing the signal-to-noise ratio at the input, the search interval scanning unit is made with the inclusion of a random-number pulse generator connected to a pseudorandom sequence generator which is connected to the data feed input. The random-number pulse generator is simultaneously connected through the data output unit to the reference sequence generator. A cadence pulse source is connected directly to the data input circuit, and also to the data output unit through a circuit which includes a time delay link for a period equal to the evaluation interval and a diode which is also connected to the threshold unit of the correlation detection indicator.

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USSR UDC: 621.376.332(088.8)

GLAZOV, B. I., SHKIRYATOV, V. V.

"A Digital Frequency Discriminator"

USSR Author's Certificate No 263691, filed 11 Feb 67, published 4 Jun 70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12D78 P)

Translation: The proposed digital frequency discriminator contains: two phase detectors to which the signal to be measured is sent in phase, while the reference signal is sent through a phase shifter which displaces by $\pm\pi/4$; a shaper amplifier connected to the output of the first phase detector, a limiter amplifier connected to the output of the second phase detector, a coincidence circuit connected between the outputs of the shaper amplifier and limiter amplifier, and a reversible counter with detector of the sign of the mismatch frequency. To eliminate the zero drift of the frequency response, the output of the shaper amplifier is connected to the counting input of the reversible counter.

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USSR

UDC 621.396.93

KRASNENKO, N.P., GLAZOV, G.N.

"Accuracy Of Amplitude Direction Finding By Phased Arrays"

Kiyev, Izv. VUZ:Radioelektronika, Vol XVI, No 2, Feb 1973, pp 23-27

Abstract: Allowing for the space-time fluctuations of the signal field, the error is determined of amplitude monopulse direction finding in an approximation of "small" apertures and selection times. The results obtained in the particular case of an absence of signal fluctuations reduce to the results of a work by L. E. Brennan (Zarubezhnaya radioelektronika [Foreign Radio Electronics], 1968, 1, 17). Cases of large and small regularity parameters and cases of direction finding with respect to a partially-coherent field are considered. The results of the work make it possible to calculate the component of the direction finding error due to signal fluctuations and noise for an effective functional scheme of treatment. 4 fig. 7 ref. Received by editors, 20 Nov 1971; after revision, 3 April 1972.

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USSR

UDC 621.373.826:550.3

GLAZOV, G. N.

"Potential Accuracy of Lidar Measurements of Several Atmospheric Parameters"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 347-350 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D385)

Translation: A theoretical examination is made of the potential accuracy in the determination of the coefficient of inverse scatter and mean-square turbulent aerosol velocity for a specified spatial resolution, through the use of an optical radar system (lidar). These parameters of the atmosphere are connected with the received signal power and the broadening of its spectrum. A. K.

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USSR

UDC 538.4

GLAZOV, O. A.

"Magnetohydrodynamic Boundary Layer at Large Stewart Numbers"

Riga, Magnitnaya Gidrodinamika, No 3, Jul-Sep 71, pp 95-106

Abstract: A solution is found for the equations of an MHD boundary layer on a disc in the case of very general assumptions relative to the external flow. The solution is applicable in the region of fairly large, localized Stewart numbers. Included as special cases in the solution are the solutions of a number of problems of a boundary layer over a disc: the problem of the boundary layer on a rotating disc in the presence of rotary motion in the external flow, the problem of the boundary layer on a disc rotating in a homogeneous axial flow, etc. In addition, a solution is given for the boundary layer problem of longitudinal flow around a solid of revolution found in the same way and suitable for large Stewart numbers. The problem is considered in the cylindrical coordinate system, and the radial and azimuthal components of velocity in the external flow, the radial and azimuthal compo-

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GLAZOV, O. A., Magnitnaya Gidrodinamika, No 3, Jul-Sep 71, pp 95-106

nents of the electrical current density, and the radial component of the electrical field are assumed to be functions of the radial coordinate alone. The axial components of the flow velocity and the current density may also be linear functions of the longitudinal coordinate. The external magnetic field is orthogonal to the plane of the disc. The magnetic field induced by motion of the liquid is disregarded. The density and viscosity of the liquid are constant. Bibliography of seven titles.

USSR

UDC 669.18:621.746.58

DOROKHOV, V. I., PALYANICHKA, V. A., KLEMESHOV, G. A., YEVTYUTOV, V. P., GLAZOV, V. I., PANASENKO, V. G., RYABININ, B. G., and ROSTORGUYEV, V. D., Ukrainian Scientific Research Institute of Metals

"Casting of Large Sheet Ingots of Low-Alloy Steel Under Protective Slag Coating"

Moscow, Metallurg, No 3, Mar 72, pp 17-19

Abstract: Joint investigations of the Ukrainian Scientific Research Institute of Metals and the Zhdanov Plant imeni Il'ich, revealed that stratifications in sheets of silicomanganous steel can be caused by accumulations of macro-inclusions of endogenic origin or increased content of hydrogen. Experiments in casting sheet ingots of silicomanganous steel 09G2S, weighing 118-27.0 tons, under a protective coating of synthetic slag, are described. The experiments were conducted in order to decrease stratifications resulting from nonmetallic impurities. It was found that by using slag with optimum physico-chemical properties in casting steel, the content of oxide inclusions can be lowered by more than 30% and stratifications can be practically eliminated in thick sheets. The nonmetallic inclusions do not change

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USSR

DOROKHOV, V. I., et al., Metallurg, No 3, Mar 72, pp 17-19

character, but are merely redistributed, and a refining of metal from oxides, particularly from alumina, takes place. One illustration, two tables.

USSR

UDC 537.311.33:546.28/289

KEKELIDZE, N.P., KEKUA, M.G., KHUTSISHVILI, E.V., GLAZOV, V.I.

"Study Of The Hall Effect In A Heavily Doped n-Type Si-Ge Alloy At High Temperatures"

V sb. Issled. materialov dlya novoy tekhn. (Study Of Materials For New Technics--Collection Of Works), Tbilisi, "Metsniyereba," 1971, pp 94-99 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11B38)

Translation: The Hall effect and the electrical conductivity were studied of the alloy $Si_{0,85}Ge_{0.15}$ heavily-doped with As, with a concentration of current carriers $\sim 10^{20}$ cm^{-3}, and also specimens of the n-type alloy $Si_{0.85}Ge_{0.15}$ doped by As and compensated by Ga. Measurements were made in the temperature range 300 - 1000° K at a direct current and in a permanent magnetic field. In the heavily-doped Si-Ge alloy a decrease of the Hall constant with an increase of the temperature was observed, which is connected with an increase of the concentration of current carriers and not with a change of the Hall factor. The increase of the concentration of the current carriers is explained by the fact that part of the As at room temperature is found under conditions where it does not display donor properties. A decrease of mobility is detected, the result

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USSR

KEKELIDZE, N. P., et al., Issled. materialov dlya novoy tekhn. (Study of Materials For New Technics--Collection of Works), Tbilisi, "Metsniyereba," 1971, pp 94-99 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11B38)

of the introduction of the compensating impurity with the degree of compensation $\sim$ 30 percent. It is assumed that in the compensated specimens the number of ionized centers is increased because of acceptors. It results that in the temperature range 300 - 1000° K the mobility is changed approximately according to the law $u \sim T^{-1.1}$ for the noncompensated and $u \sim T^{-0.9}$ for the compensated alloy. An evaluation was conducted of the relationships of the mobilities dependent upon various scattering mechanisms. It is shown that at room temperature scattering is primarily dependent upon ions of the impurity. With an increase of the temperature scattering at thermal vibrations gives an appreciable contribution to the total mobility. 5 ref. I.I.

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1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--STRUCTURAL CHEMICAL TRANSFORMATIONS IN MELTS OF PERITECTIC TYPE SYSTEMS -U-
AUTHOR-(03)-SOKOLOV, YE.B., GLAZOV, V.M., PROKOFYEVA, V.K.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 580-1

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GERMANIUM ALLOY, BARIUM ALLOY, ALLOY PHASE TRANSFORMATION, INTERMETALLIC COMPOUND, THERMAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0949 STEP NO--UR/0363/70/006/003/0580/0581

CIRC ACCESSION NO--AP0118115
UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118115

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE EQUIL. IN THE GE-BA SYSTEM TO 50 ATOM PERCENT BA ARE DESCRIBED. DTA CURVES SHOW THE PRESENCE OF HEAT EFFECTS AT TEMPS. CORRESPONDING TO THE TEMPS. OF PERITECTIC TRANSFORMATIONS IN THE LIQ. REGION, I.E., IN THE REGION WHERE ACCORDING TO THE PHASE DIAGRAM THERE SHOULD BE NO TRANSFORMATIONS PRESENT. THE PHASE TRANSFORMATIONS, EXTEND INTO THE LIQ. PLUS GE REGION. THE POSSIBILITY IS SUGGESTED OF STRUCTURAL CHEM. TRANSFORMATIONS IN THE LIQ. PHASE WITH THE FORMATION OF MOL. COMPLEXES OF THE BAGE SUB4 AND BAGE SUB2 TYPES. THESE REACTIONS SHOULD AFFECT THE STRUCTURE SENSITIVE PROPERTIES SUCH AS VISCOSITY AND ELEC. COND. THESE SUGGESTIONS WERE EXPTL. CONFIRMED DURING COOLING OF GE ALLOY CONTG. 16 ATOM PERCENT BA. APPARENTLY THESE TRANSFORMATIONS IN THE GE-BA SYSTEM ARE CHARACTERISTIC NOT ONLY FOR SYSTEMS WITH SUCH CLEARLY DEFINED PERITECTIC COMPDS. OF A CONST. COMPN. AS BAGE SUB2 AND BAGE SUB4, BUT ALSO GENERALLY FOR SYSTEMS WITH VARIABLE COMPN. PERITECTIC PHASES. IN THE LATTER CASE THERE MAY BE CHANGES IN THE SHORT RANGE ORDER STRUCTURE WITH FORMATION OF MICROGROUPS APPROACHING THE COMPN. OF THE PHASE FORMING AS A RESULT OF PERITECTIC TRANSFORMATION. FACILITY: MOSK. INST. ELEKTRON. TEKH., MOSCOW, JSSR.

UNCLASSIFIED

JPRS 55583

30 March 1972

METHODS OF INVESTIGATING THE THERMOELECTRIC PROPERTIES OF SEMICONDUCTORS

Translation of Chapter 5 of Russian-language book by V. M. Glazov, A. S. Okhotin, R. P. Borovikova, A. S. Pushkarskiy: Metody issledovaniya termoelektricheskikh svoystv poluprovodnikov, 1969, Atomizdat Press, Moscow, pp 2, 131-167, UDC 621.314.59.

CONTENTS

[I - USSR - F]

USSR

UDC 539.1.074.3

GLAZOV, V. M.

"Concerning the Determination of Some Characteristics of the NaI (Tl) Monocrystal"

Khar'kov, Monokristally, Stsintillyatory i Organicheskiye Lyuminofory -- Sbornik (Monocrystals, Scintillators, and Organic Luminophores -- Collection of Works), No 5, 1970, pp 211-213 (from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 12, 1970, Abstract No 12.32.1499)

Translation: A radiometric method has been developed for determining the total natural background of packed NaI (Tl) crystals with dimensions of 40x40 mm and greater on the basis of its comparison with the total natural background of a standard monocrystal, which is sufficiently well known.

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USSR

GLAZOVA, V. M., [illegible]
Imeni A. A. [illegible]
Technology

"On the Permeability of the [illegible]"

Moscow, [illegible], Jun 50, [illegible]
Jun 70, pp [illegible]

Abstract: [illegible] was investigated on the basis of the [illegible] ductility [illegible] described by one of the authors (Glazova). [illegible] of Ti_2Zr_3O were Ti-iodine and Zr-iodine and a Zr-O alloy with [illegible]. The experiments revealed a considerably increased electric [illegible] temperature over 200° [illegible] proved the presence of a [illegible] therefore, [illegible] nature of Ti_2Zr_3O is analogous to Ti_5O, i.e. the lattice of which [illegible] atoms are replaced by three Zr atoms.

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USSR UDC 621.396.6-181.4

SAFRONOV, V. I., GLAZOV, V. M., SOLOV'YEV, I. A.

"Protection of Integrated Circuits Based on MOS Transistors From a High Electrostatic Potential"

Elektron. prom-st'. Nauchno-tekhn. sb. (Electronics Industry. A Scientific and Technical Collection), 1970, No 1, pp 45-48 (from RZh-Radiotekhnika, No 10, Jan 70, Abstract No 10V180)

Translation: The authors examine breakdown of the dielectric beneath the gate of an MOS-structure produced by a high electrostatic potential, where this breakdown is due to the accumulation of charges on the elements of equipment and voltage surges during transient processes. Experiments are described on protecting microcircuits of MOS structure from breakdown by using semiconductor diodes and transistors made in an integrated technological cycle with the microcircuit. Three illustrations, bibliography of two titles. M. S.

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1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MECHANISM OF INTERACTION AMONG DOPING ELEMENTS IN SEMICONDUCTORS -U-

AUTHOR-(03)-GLAZOV, V.M., MALYUTINA, G.L., KISELEV, A.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 1051-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SILICON, GERMANIUM, SEMICONDUCTOR MATERIAL, SEMICONDUCTOR IMPURITY, MATHEMATIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0915 STEP NO--UR/0057/70/044/004/1051/1058

CIRC ACCESSION NO--AP0131501

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131501

ABSTRACT/EXTRACT--(C) GP-0- ABSTRACT. INTERACTION BETWEEN DONOR AND ACCEPTOR IMPURITIES IN SEMICONDUCTOR BASED SOLID SOLNS. WAS STUDIED THEORETICALLY. THE EXISTENCE OF ELEC. NEUTRAL A PRIMEIII B PRIMEV COMPLEXES WITH COVALENT BONDS IN SI OR GE WAS SUPPOSED. EQUATIONS ARE GIVEN CONNECTING DONOR AND ACCEPTOR SOLY. WITH ACCEPTOR AND DONOR CONCN., RESP. THEORETICAL VALUES OF IMPURITY SOLY. IN TERNARY SEMICONDUCTOR ACCEPTOR DONOR SYSTEMS AT HIGH TEMP. AGREE WITH EXPTL. RESULTS FOR THE GE AL P SYSTEM AT 700-800DEGREES. FACILITY: MOSK. INST. ELEKTRON. TEKH., MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THERMAL EXPANSION AND VOLUME CHANGES DURING THE MELTING OF SOME A PRIME1 B PRIMEIII C SUB2 PRIMEVI COMPOUNDS -U-

AUTHOR-(03)-GLAZOV, V.M., MALSAGOV, A.U., KRESTOVNIKOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 143-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SELENIDE, TELLURIDE, COPPER COMPOUND, GALLIUM COMPOUND, INDIUM COMPOUND, THERMAL EXPANSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1346 STEP NO--UR/0363/70/006/001/0143/0145

CIRC ACCESSION NO--AP0121839

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121839

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TEMP. DEPENDENCE OF THE D. OF 4 COMPDS. OF THE GROUP A PRIMEI B PRIMEIII C SUB2 PRIMEVI WAS STUDIED, NAMELY: CUGA SE SUB2, CUGATE SUB2, CUINSE SUB2, AND CUINTE SUB2. THE D. OF THE SOLID STATE FALLS OFF LINEARLY DURING HEATING UP TO THE M. P. DURING THE TRANSITION FROM THE SOLID TO THE LIQ. STATE, THE D. CHANGES ABRUPTLY BY DECREASING, AND ON FURTHER HEATING OF THE MELT, IT AGAIN FOLLOWS A LINEAR LAW. THE VOL. CHANGES ON MELTING OF THESE COMPDS. AGREE WITH THE D. BEHAVIOR. FROM THERMAL EXPANSION DATA, CERTAIN CHARACTERISTICS OF THE INTERAT. BOND IN THE LATTICE OF THE A PRIMEI B PRIMEIII C SUB2 PRIMEVI COMPDS. CAN BE DETD. FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.315.592

GLAZOV, V. M., MALYUTINA, G. L., and KISELEV, A. I., Moscow Institute of Electronics Technology; Moscow Institute of Steels and Alloys, Moscow, Ministry of Higher and Secondary Specialized Education, RSFSR

"Mechanism of Interaction Between the Alloying Elements in Semiconductors"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44 No 4, Apr 70, pp 1051-1058

Abstract: The simultaneous presence of donors and acceptors in a semiconductor-base solid solution effects a mechanism resulting in significant changes in electrophysical properties. In solid-state physics such interaction is termed as compensation. However, the mechanism of compensation of donors and acceptors in chemical terms has up to recently remained obscure . This theoretical study concerns the mechanism of interaction between donor- and acceptor-type alloying elements in semiconductor-type solid solutions. Equations have been derived correlating the donor solubility value as a function of acceptor content and vice versa. Use is made of a Ge-Al-P system to demonstrate the applicability of these equations to calculating solubility isotherms of alloying elements in semiconductor-acceptor-donor-type ternary systems at high temperatures. Tables in the original article provide comparative experimental and theoretical data of Ge-Al-P solubility at 700-800°C, with good agreement between the values. Another table cites similar agreement between calculated and theoretical solubility isotherms for the same system.

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1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PHASE EQUILIBRIUMS IN GE TE A PRIMEII TE SYSTEMS -U-

AUTHOR-(03)-NAGIYEV, V.A., ZARGAROVA, M.I., GLAZOV, V.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 569-71

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--THERMAL ANALYSIS, GERMANIUM COMPOUND, ZINC COMPOUND, MERCURY COMPOUND, CADMIUM COMPOUND, PHASE DIAGRAM, TELLURIDE, PHASE EQUILIBRIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0897 STEP NO--UR/0363/70/006/003/0569/0571

CIRC ACCESSION NO--AP0118066
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118066

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE EQUIL. AND PHASE DIAGRAMS OF THE GETE A PRIMEII TE (A IS CA, HG, AND ZN) SYSTEMS WERE STUDIED BY SUBJECTING A SERIES OF ALLOYS TO DTA, MICROSTRUCTURAL, AND X RAY PHASE ANAL. THE DTA CRUVES OF ALLOYS OF THESE SYSTEMS ARE CHARACTERIZED BY THE PRESENCE OF 3 (AND IN SOME CASES, 2) THEMAL EFFECTS. THE PHASE DIAGRAMS ARE SIMILAR; THE INTERACTION OF THE HIGH TEMP. FORM OF GETE WITH ZNTE, CDTE, OR HGTE IS DESCRIBED BY PHASE DIAGRAMS OF THE EUTECTIC TYPE WITH A LIMITED SOLY. IN THE SOLID STATE, IN WHICH THE EUTECTIC TEMP. DECREASES REGULARLY AND THE EUTECTIC CONCN. INCREASES IN THE A PRIMEII TE SERIES BY THE CATIONIC SUBSTITUTION WITH THE HEAVIER ELEMENT. THE NATURE OF THE INTERACTION OF THE LOW TEMP. PHASE OF GETE WITH ZNTE, CDTE, OR HGTE IS DESCRIBED BY THE PHASE DIAGRAM OF THE EUTECTOIDAL TYPE WITH A LIMITED SOLY. THE GETE A PRIMEII TE SECTIONS IN THER TERNARY GE A PRIMEII TE SYSTEMS ARE QUASIBINARY AND ARE CHARACTERIZED BY RELATIVELY SIMPLE PHASE DIAGRAMS. THE A PRIMEII B PRIMEVI COMPOS. DISSOLVE IN GETE TO GREATER THAN OR EQUAL TO 1.5-2 MOLE PERCENT. INTRODUCTION OF 0.5 MOLE PERCENT A PRIMEII TE INTO GETE CONTG. A 2ND PHASE DUE TO DEVIATIONS FROM STOICHIOMETRY RESULTS IN DISAPPEARANCE OF THE 2ND PHASE. ALL THE ALLOYS ARE SINGLE PHASE AT 0.5-1.5 MOLE PERCENT A PRIMEII TE. FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

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Power Mechanics

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APPLICATION OF 'DYNAMIC RIGIDITIES' TO CALCULATION AND STUDY OF LONGITUDINAL VIBRATIONS OF SHIP SHAFTINGS

[Article by Yu. Ye. Glazov, Moscow, Vibroakusticheskaya Aktivnost' Mekhanizmov s Zubchatymi Peredachami, Russian, 1971, pp 125-136]

Longitudinal vibrations of ship shaftings are more and more recently the cause of mechanical failures of engines and high hull vibration. This is the result of the constant increase of ship speeds, leading to greater irregularity of flow in the screws and an increase in temporal components of thrust forces.

The need to tackle the unfavorable phenomena caused by longitudinal vibrations in shaftings compels the carrying out of vibration calculations in their design stage for the purpose of choosing the best elasto-inertial parameters of the vibratory system.

In the case of longitudinal vibrations the calculation layout of an engine complex is not always completely clear, as is the case, for instance, with torsional vibrations. Difficulties arising in calculation drafting are attributed to the participation of hull constructions in longitudinal vibrations of shaftings, connected to them through bearings. Moreover, the design draft should take into account components of the reducer-shaft assembly if the conditions of coupling of the shaft and reducer ensure sufficient axial rigidity, which introduces additional difficulties.

When designing systems in which the dynamic properties of various parts are hard to represent as discrete masses and weightless springs, it may be advisable to use the method of "dynamic rigidities" [1, 2].

The dynamic rigidity coefficient K_j is defined as the ratio of the force $Q_j(t)$ acting at a given point of the system with frequency ω to displacement $y(x_j, t)$ at the same point. The dynamic rigidity coefficients can be found both as a result of calculations of discrete systems, the dynamic properties of which are expressed through distributed or concentrated parameters, and experimentally with the aid of vibration machines or

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THE USE OF RESISTANCE STRAIN GAUGES FOR MEASURING THE TORQUE AND THRUST OF MARINE ENGINE INSTALLATIONS WITH TURBINE-GEAR DRIVES

[Article by Yu. Ye. Glazov, A. Ya. Tsychkin, [illegible] Moscow, Vibroakusticheskaya Aktivnost' Mekhanizmov s Zubchatymi Peredachami, Russian, 1971, pp 136-152]

Control of such values as torque and the thrust of the propellers plays an important role in modern shipbuilding with its great trend toward increasing speeds and higher efficiency.

The given question is the focus of much attention, both in our country and abroad. There are several methods of measuring the torque and thrust on the shafts of marine engines, based on optical, induction, electromechanical, magnetic and other means of determining deformations and stresses [1-7]. Not a single one of them, however, affords measurement results of sufficiently high accuracy. In this connection there is presently no consensus concerning the preferability of one of these methods over the others.

Extensometric measurement systems also have not gained wide acceptance, basically because of unsatisfactory operation of brush terminals, instability of the amplifier and difficulties related to measuring complex stress states of shafts.

Described below is an extensometric measurement system and method of calibrating shafts that improve the accuracy of measurements of the torque and thrust of marine propulsion systems.

The basic elements of the metering circuit (figure 1) are the strain bridge TM, current pickup device T, power and balance unit BP, amplifier UU, recorder PI and stabilizer CT.

Strain bridges. A complete bridge, consisting of wire resistance gauges attached to the shaft, converts mechanical stresses to an electric signal. For measuring thrust forces strain gauges are glued to the shaft along the generatrix of the latter and perpendicular to it. The former are the working gauges and the latter are used for thermocompensation of

USSR

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"Weldability of Titanate Alloys with Increased Content of Oxygen"

Kiev, Avtomaticheskaya Svarka, No 5, May 71, pp 72-73

Abstract: The weldability of alloys of the systems titanium-vanadium and titanium-vanadium-aluminum with 0.25-0.35% of O parts by weight was investigated at the Electric Welding Institute imeni Ye. O. Paton and the Institute of Metallurgy imeni A. A. Baykov, in order to determine the possibility of increasing the oxygen concentration in weldable titanium alloys and the conditions under which welded joints with satisfactory properties, even with an increased O content, can be produced. A demonstrated comparison of mechanical properties of welded joints of the investigated alloys and alloys of the system titanium-molybdenum-zirconium shows that only the alloys with vanadium possess high endurance and plasticity at increased O concentration. Preliminary experiments proved the possibility of using titanium with a raised O concentration for producing satisfactorily weldable titanium alloys. One figure, one table.

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Technology

"On the Formation of the Ti_3Zr_3O Semiconductor Compound"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, [illegible],
Jun 70, pp 1192-[illegible]

Abstract: The physicochemical nature of the semiconducting [illegible] was investigated on the basis of the experimentally [illegible] electric conductivity dependence on the temperature, [illegible] method [illegible] described by one of the authors (Glazov). The initial materials [illegible] of Ti_3Zr_3O were Ti-iodide and Zr-iodide and a Zr-O alloy with [illegible]. The experiments revealed a considerably increased [illegible] at temperatures over [illegible]° C and proved the presence of a forbidden [illegible], i.e., therefore, the semiconducting character of Ti_3Zr_3O. The physicochemical nature of Ti_3Zr_3O is analogous to Zr_6O, in the lattice of which three [illegible] atoms are replaced by three Ti atoms.

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"Wintering Stage of the Agent of Fusarium Wilt of Cotton"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Biologicheskikh Nauk, No 1, 1972, pp 78-79

Abstract: Research results on the wintering stage of the agent of Fusarium wilt of cotton are given. In the wintering stage, the population of Fusarium oxysporum f. vasinfectum grows progressively, increasing the infectiousness of the soil, with a tenfold increase in the quantity of chlamydospores. Removal of infected cotton stems and bolls remains one of the most essential measures for controlling this disease.

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